CLEAN VERSION OF THE AMENDED AND ADDED CLAIMS

IN THE CLAIMS:

8. (Twice Amended) A method of manufacturing a multi-layered barrier metal thin film by atomic layer chemical vapor deposition, comprising the steps of:

providing a substrate in a reactant chamber;

providing a first chemical species in said reactant chamber;

providing a second chemical species in said reactant chamber, wherein said first and second chemical species react to deposit a first layer of a barrier metal thin film of a first metal nitride on said substrate by atomic layer chemical vapor deposition;

providing a third chemical species in said reactant chamber; and

providing a fourth chemical species in said reactant chamber, wherein said third and fourth chemical species react to deposit a second layer of said barrier metal thin film of a second metal nitride directly on said first layer by atomic layer chemical vapor deposition, wherein said second metal nitride is different from said first metal nitride,

wherein said barrier metal thin film deposited on said substrate defines a thickness of less than 100 Angstroms.

14. (Twice Amended) A method of manufacturing a multi-layered barrier metal thin film by atomic layer chemical vapor deposition, comprising the steps of:

providing a substrate in a reactant chamber;

providing a first chemical species in said reactant chamber;

providing a second chemical species in said reactant chamber, wherein said first and second chemical species react to deposit a first barrier metal thin film of a first metal nitride on said substrate by atomic layer chemical vapor deposition;

providing a third chemical species in said reactant chamber;

providing a fourth chemical species in said reactant chamber, wherein said third and fourth chemical species react to deposit a second barrier metal thin film of a second metal nitride directly on said first barrier metal thin film by atomic layer chemical vapor deposition, wherein said first metal nitride is different from said second metal nitride.

21. (First Amended) A method of manufacturing a multi-layered barrier metal thin film by atomic layer chemical vapor deposition, comprising the steps of:

providing a substrate in a reactant chamber;

depositing a first layer of a first metal nitride on said substrate by atomic layer chemical vapor deposition; and

depositing a second layer of a second metal nitride directly on said first layer by atomic layer chemical vapor deposition;

wherein said first metal nitride is different from said second metal nitride.